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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,260	01/16/2002	Horst Greiner	DE 010021	9268
24737	7590	01/26/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			CARIASO, ALAN B	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/050,260	<b>Applicant(s)</b> GREINER, HORST	
	<b>Examiner</b> Alan Cariaso	<b>Art Unit</b> 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-12 is/are allowed.
- 6) ☒ Claim(s) 1-6, 13-15, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 7 and 16-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Terminal Disclaimer***

1. The terminal disclaimer filed on December 29, 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of has been reviewed and is accepted. The terminal disclaimer has been recorded.
2. Applicant's terminal disclaimer, filed December 29, 2004, with respect to the rejection(s) of claim(s) 1-14 and 19 under pending application 10/050,249 in view of KAWANO et al (6,404,131) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited references to KRAINES (US 5,537,300) and ADACHI et al (US 6,561,663). The finality of the rejection of the last Office action is withdrawn, and prosecution is re-opened with this non-final Office Action.
3. The indicated allowability of claims is withdrawn in view of the newly discovered reference(s) to KRAINES et al (US 5,537,300) and ADACHI et al (US 6,561,663). Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by KRAINES et al (US 5,537,300).

6. KRAINES discloses a light emission surface (64); a plurality of substantially point-shaped light sources (70); an optical waveguide plate (66) into which a plurality of cavities (blind holes 74) is provided, each cavity (74) accommodating a light source (70) and including an upper side (76, fig.2) closest to the light emission surface (64) and side walls (adjacent 90) that allow coupling of light therethrough (col.4, lines 48-52) into the optical waveguide plate (66), said upper side (76, fig.2) being covered with a first reflecting layer (76, col.4, lines 56-60), said cavities (74) extending only partially through (fig.2) the optical waveguide plate (66) toward the light emission surface (64), such that a portion of the light coupled from one of the cavities (74) through the side walls (adj.90) can reach and be emitted from an area of the light emission surface (64) directly about said one of the cavities (74); wherein the side walls (adj.90) of the cavities (74) are substantially perpendicular (fig.2) to the light emission surface (64), and the upper sides (76) of the cavities (74) are substantially parallel (fig.2) to the light emission surface (64); wherein the cavities (74) are substantially cylindrical in shape (fig.1); wherein the

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cavities (74) are provided in the lower side (fig.2) of the optical waveguide plate (66); wherein the light sources (70) are light-emitting diodes (col.8, lines 7-11).

7. Claims 13, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by ADACHI et al (US 6,561,663).

8. ADACHI discloses a lighting device (1) comprising: a light emission surface (201 or 210, figs.2-4); first and second reflecting layers (600,400); an optical waveguide plate (200) including side faces (fig.1) and an underside (300) therebetween into which at least one cavity (210a,210b,210c in figs.2-4; col.6, lines 11-12) including an upper side (600a-d) closest to the light emission surface (201), a lower side (lowest part of 300, figs.1-4) opposite the upper side (600a-d), and at least one side wall allowing coupling of light into the optical waveguide plate (200); and at least one light source (100a-d) accommodated within the cavity (figs.1-4), the upper side (600a-d) being covered by the first reflecting layer (600, col.8, line 54 to col.9 lines 30) and the lower side (300) being covered by the second reflecting layer (400, col.9, lines 32-53); wherein the side wall of the cavity (210a-c) of the cavity is substantially perpendicular (figs.2-4) to the light emission surface (201), and the upper side of the cavity (600a-d) of the cavity is substantially parallel to the light emission surface (201); a display device (col.3, lines 50-59) incorporating the lighting device (1).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 13-15, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over KRAINES et al (US 5,537,300) in view of LANG (US 4,714,983).

11. KRAINES discloses the claimed invention except: the cavities (74) being each covered with a second reflecting layer on their lower side opposite to their upper side (claim 3) or the lower side being substantially covered by the second reflecting layer (claim 13); wherein the second reflecting layer extends over the underside and the side faces of the optical waveguide plate (claim 15).

12. LANG teaches a printed circuit board (58, figs.2-3) forming a diffusive reflector (col.5, lines 32-37) and a bottom paint layer (68) that apparently reflects light (fig.6) extending over the underside (14) and side faces (18) of the optical waveguide plate (10). Each of the reflective PCB (58) and the paint layer (68) of LANG defining a second reflecting layer on or extending over the lower side/underside (14,45) opposite the upper side (40,42) of the LED-occupied cavities (40,42) for the purpose of backlighting by reflectively directing lateral light from the LED light sources within and out through the light emitting surface (12) of the optical waveguide plate (10) towards the LC-display or control panel.

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13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide or modify the illuminated panel device of KRAINES et al with its bottom printed circuit board being reflective or include the type of reflective layer at the bottom of at least each LED-occupied cavity as taught by LANG in order to reflectively direct light from the LED sources within the waveguide plate and exit out through the front emission surface to illuminate, by which would provide adequate light guiding illumination towards the front display or panel with a choice of efficient use of parts or efficiently directing most light with use of reflective bottom layer.

#### ***Allowable Subject Matter***

14. Claims 7 and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


15. Claims 8-12 are allowed.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan Cariaso  
Primary Examiner  
Art Unit 2875

AC  
January 18, 2005